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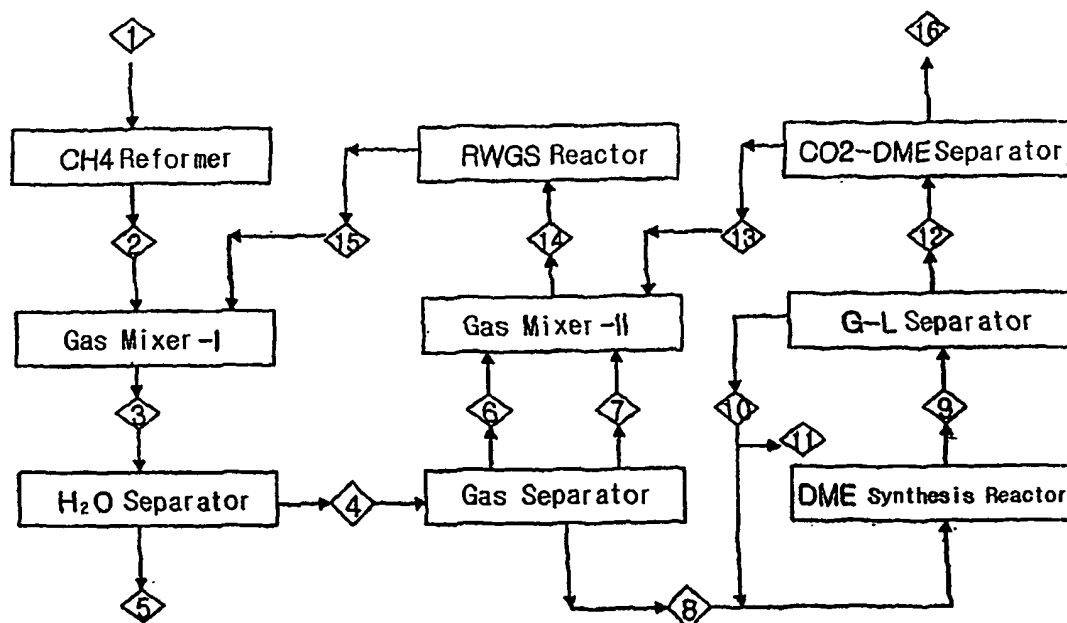
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(54) Title: METHOD FOR THE PRODUCTION OF DIMETHYL ETHER



(S7) Abstract: The present invention is directed to a method for producing DME, which comprises separating a CO₂ rich stream from a crude product stream containing DME and CO₂ obtained by a DME synthesis from a feed syn gas; introducing the CO₂ rich stream to a reverse water gas shift (RWGS) reactor wherein it is reacted with hydrogen in the presence of a catalyst to provide a CO rich stream, and recycling the CO rich stream to the step of the methanol synthesis step. In accordance with the present invention, a large amount of carbon dioxide gas generated during the preparing process of DME is effectively re-used, thus increasing the yield of DME and lowering the amount of carbon dioxide discharged.

WO 2005/026093 A1



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